Developing a Landscape-scale Invasive Free Zone

Mike Mlynarek, Whittlesey Creek National Wildlife Refuge, USFWS

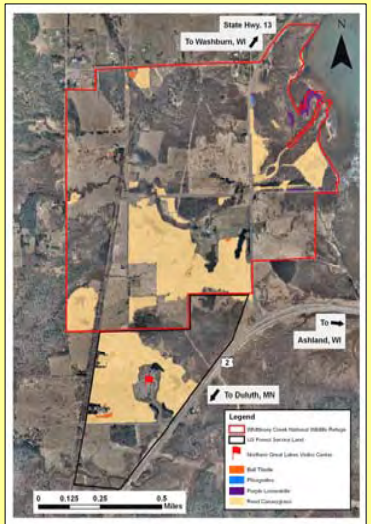
INTRODUCTION

Refuge locator and ownership maps.

Few projects target multiple invasive plant species on a landscape-scale and across ownership boundaries. The goal of this long-term project, initiated in 2005, is to eliminate non-native invasive terrestrial and emergent aquatic plants on the Whittlesey Creek NWR (540 acre acquisition area), inholdings and adjacent U.S. Forest Service property at the Northern Great Lakes Visitor Center. The project area is largely coastal wetland and coastal floodplain habitat. Ultimately, native plant communities will be restored. Historic records describe swamp conifers, mixed coniferous-deciduous and boreal forests with willow, alder, sedge and Canada bluejoint likely occurring in marshes.

METHODS & MATERIALS

A Thales MobileMapper GPS unit was used and data dictionary entries were collected according to the North American Invasive Plant Mapping Standards (www.nawma.org). Both mandatory and optional fields include data collection date, examiner, species, % canopy cover, gross infested area, location, ownership codes, etc. Additional fields were added to track invasive control and habitat restoration procedures. ArcGIS 9.0 was used to manage and analyze data.



Example of infested areas.

RESULTS & DISCUSSION

Monotypic stand of *Phalaris arundinacea*, (reed canarygrass).

A summer intern mapped and catalogued over 500 infestation polygons and point features and collected corresponding data. In-field mapping was aided by interpreting 2005 color air photos. Mapping is approximately 85% complete. Twenty-one species have been identified. Out of the possible 720 acre survey area, only 115 acres weren't mapped due to lack of private landowner permission. Control has been initiated on nine species covering roughly 10 acres.

During 2006 and beyond, mapping will be completed, treatment and restoration plans will be developed. Invasive species control and habitat restoration will continue and be expanded as funding allows. Monitoring via chronological GPS mapping according North American Invasive Plant Mapping Standards, GIS analysis, photo-point imagery and plant species density ratings will document treatment and restoration success. Quadrats and/or transects will be used to evaluate reference sites. Restoration of 20 to 30 acres of riparian habitat using native forbs, grasses, sedges, trees and shrubs should be completed during 2007.

Cirsium vulgare, (bull thistle).

Eupatorium maculatum (Joe-Pye-weed).

Gentiana sp. (Gentian).

Cedar-hemlock-yellow birch forest.

Project partners include; Numerous private landowners, U.S. FWS, Lake Superior Binational Program, U.S. Forest Service, U.S. EPA-GLNPO, U.S. National Park Service Great Lakes Network Office-Exotic Plants Management Team, Great Lakes Indian Fish and Wildlife Commission, Northland College and Sigurd Olson Environmental Institute, WI-DNR and Univ. of WI-Extension.

Mike Mlynarek, Fish and Wildlife Biologist, Whittlesey Creek NWR
29270 County Hwy G, Ashland, WI 54806
Ph: (715) 685 2666 Fax: (715) 685 2680 mike_mlynarek@fws.gov